



1614

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Date of Deposit : July 30, 2002

Serial No. : 10/091,759

Applicant(s) : Adnan M. M. Mjalli et al.

Filing Date : March 5, 2002

Title: CARBOXAMIDE DERIVATIVES AS
THERAPEUTIC AGENTS

Examiner : Unassigned

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Group Art Unit : 1614

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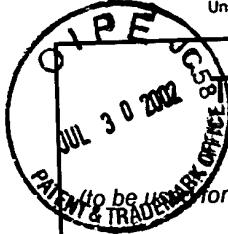
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Application Number

10/091,759

Filing Date

March 5, 2002

First Named Inventor

Adnan M. M. Mjuallii

Group Art Unit

1614

Examiner Name

Unassigned

Attorney Docket Number

41305-271123 (2001-21)

ENCLOSURES (check all that apply)

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENTFirm or
Individual nameCynthia B. Rothschild, Esq.
Reg. No. 47,040

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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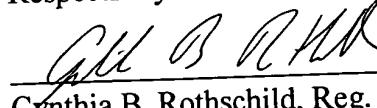
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Respectfully submitted,



Cynthia B. Rothschild, Reg. No. 47,040

Date: 7/30/02

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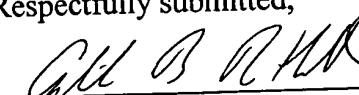
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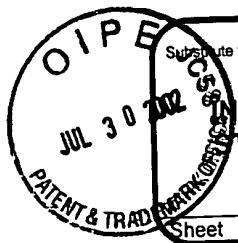
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Application Number	10/091,759
Filing Date	March 5, 2002
First Named Inventor	Adnan M.M. Mjalli
Group Art Unit	1614
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Attorney Docket Number	41305-271123 (2002)
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U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
1	4,166,452			Generales, Jr.	09-04-79	
2	4,265,874			Bonsen, et al.	05-05-81	
3	4,356,108			Schwab, et al.	10-26-82	
4	4,873,313			Crawford, et al.	10-10-89	
5	5,202,424			Vlassara, et al.	04-13-93	
6	5,585,344			Vlassara, et al.	12-17-96	
7	5,688,653			Ulrich, et al.	11-18-97	
8	5,864,018			Morser, et al.	01-26-99	
9	5,939,526			Gaugler, et al.	08-17-99	
10	6,100,098			Newkirk	08-08-00	

FOREIGN PATENT DOCUMENTS

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		Office ³	Number ⁴	Kind Code ² (if known)				
11	WO	00/20458			The Trustees of Columbia University in NYC	04-13-00		✓
12	WO	00/20621			The Trustees of Columbia University in NYC	04-13-00		✓
13	WO	97/26913			The Trustees of Columbia University in NYC	07-31-97		✓
14	WO	97/39121			Schering Aktiengesellschaft	10-23-97		✓
15	WO	9739125			Schering Aktiengesellschaft	10-23-97		✓
16	WO	98/22138			The Trustees of Columbia University in NYC	05-28-98		✓
17	WO	99/07402			The Trustees of Columbia University in NYC	02-18-99		✓
18	WO	99/18987			The Trustees of Columbia University in NYC	04-22-99		✓
19	WO	99/54485			The Trustees of Columbia University in NYC	10-28-99		✓
20	WO	95/09838			Merrell Dow Pharmaceuticals Inc.	04-13-95		✓
21	WO	95/35279			Merrell Pharmaceuticals Inc.	12-28-95		✓
22	WO	97/22618			Vertex Pharmaceuticals Incorporated	06-26-97		✓
23	WO	96/32385			Hoechst Marion Roussel Inc.	10-17-96		✓
24	WO	99/50230			Vertex Pharmaceuticals Incorporated	10-07-99		✓

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Application Number 10/091,759
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First Named Inventor Adnan M.M. Mjalli
Group Art Unit 1614
Examiner Name Unassigned
Attorney Docket Number 41305-271123 (2012)
Express Mail Certificate EV 032 196 842 US

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	25	GB	2 005 674		Carlo Erba S.p.A.	04-25-79		✓
	26	WO	98/33492		Fox Chase Cancer Center	08-06-98		✓
	27	WO	99/25690		University of Kansas Medical Center	05-27-99		✓
	28	WO	01/12598		The Trustees of Columbia University in New York City, NY	02-22-01		✓

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	29	Albercio, F. & Carpino, L.A., "Coupling Reagents and Activation" <i>Methods in Enzymology</i> 289:104-126, Academic Press, San Diego (1997)	✓
	30	Barton, J.W., "In Protection of N-H Bonds and NR ₃ " <i>Protective Groups in Organic Chemistry</i> , J.F.W. McOmie, ED., Plenum Press, New York, NY (1973)	✓
	31	Berge, S.M., et al., "Pharmaceutical Salts" <i>Journal of Pharmaceutical Sciences</i> 66:1-19 (1977)	✓
	32	Chitaley, K., et al., "Antagonism of Rho-Kinase Stimulates Rate Penile Erection via a Nitric Oxide-Independent Pathway" <i>Nature Medicine</i> 7:119-122 (2002)	✓
	33	Degenhardt, T.P., et al., "Chemical Modification of Proteins by Methylglyoxal" <i>Cell Mol. Biol.</i> , 44:1139-1145 (1998)	✓
	34	Dyer, D.G., et al., "Accumulation of Maillard Reaction Products in Skin Collagen in Diabetes and Aging" <i>J. Clin. Invest.</i> , 91:2463-2469 (1993)	✓
	35	Dyer, D.G., et al., "Formation of Pentosidine during Nonenzymatic Browning of Proteins by Glucose" <i>J. Biol. Chem.</i> , 266:11654-11660 (1991)	✓
	36	Greene, T.W., "Protection for the Amino Group" <i>Protective Groups in Organic Synthesis</i> , John Wiley and Sons, New York, NY, Chapter 7 (1981)	✓
	37	Hammes, H.P., et al., "Diabetic Retinopathy Risk Correlates with Intracellular Concentrations of the Glycoxidation Product N ^ε -(Carboxymethyl) Lysine Independently of Glycohaemoglobin Concentrations" <i>Diabetologia</i> , 42:603-607 (1999)	✓
	38	Hoffman, M.A., et al., "RAGE Mediates a Novel Proinflammatory Axis: A Central Cell Surface Receptor for S100/Calgranulin Polypeptides" <i>Cell</i> , 97:889-901 (1999)	✓
	39	Hori, O., et al., "The Receptor for Advanced Glycation End Products (RAGE) Is a Cellular Binding site for Amphotericin" <i>J. Biol. Chem.</i> , 270:25752-761 (1995)	✓
	40	Huttunen, H.J., et al., "Receptor for Advanced Glycation End Products (RAGE)-Mediated Neurite Outgrowth and Activation of NF-Kappa B Require the Cytoplasmic Domain of the Receptor But Different Downstream Signaling Pathways" <i>J. Biol. Chem.</i> , 274(28):19919-24 (1999)	✓

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41	Kumar, S.R., et al., "RAGE at the Blood-Brain Barrier Mediates Neurovascular Dysfunction Caused by Amyloid β ₁₋₄₀ Peptide" <i>Neurosci. Program</i> , 141:#255.19 (2000)	✓
42	Leder, A. et al., "v-Ha-ras Transgene Abrogates the Initiation Step in Mouse Skin Tumorigenesis: Effects of Phorbol Esters and Retinoic Acid" <i>Proc. Natl. Acad. Sci., USA</i> , 87:9178-9182 (1990)	✓
43	Li, J. et al., "Sp1-Binding elements in the Promoter of RAG Are Essential for Amphotericin-Mediated Gene Expression in Cultured Neuroblastoma Cells." <i>J. Biol. Chem.</i> , 273:30870-30878 (1998)	✓
44	Li, J. et al., "Characterization and Functional Analysis of the Promoter of RAGE, the Receptor for Advanced Glycation End Products," <i>J. Biol. Chem.</i> , 272:16498-16506 (1997)	✓
45	Lugering, N. et al., "The Myeloid Related Protein MRP8/14 (27E10 Antigen)—Usefulness as a Potential Marker for Disease Activity in Ulcerative Colitis and Putative Biological Function" <i>Eur. J. Clin. Invest.</i> , 25:659-664 (1995)	✓
46	Miyata, T. et al., " β_2 -Microglobulin Modified with Advanced Glycation End Products Is a Major Component of Hemodialysis-Associated Amyloidosis" <i>J. Clin. Invest.</i> , 92:1243-1252 (1993)	✓
47	Miyata, T. et al., "The Receptor for Advanced Glycation End Products (RAGE) Is a Central Mediator of the Interaction of AGE- β_2 Microglobulin with Human Mononuclear Phagocytes Via an Oxidant-Sensitive Pathway" <i>J. Clin. Invest.</i> , 98:1088-1094 (1996)	✓
48	Neeper, M., et al., "Cloning and Expression of a Cell Surface Receptor for Advanced Glycosylation End Products of Proteins" <i>J. Biol. Chem.</i> , 267:14998-15004 (1992)	✓
49	Parkkinen, J. et al., "Amphoterin, the 30-kDa Protein in a Family of HMG1-Type Polypeptides" <i>J. Biol. Chem.</i> , 268:19726-19738 (1993)	✓
50	Rammes, A. et al., "Myeloid-Related Protein (MRP) 8 and MRP 14, Calcium-Binding Proteins of the S100 Family, Are Secreted by Activated Monocytes via a Novel, Tubulin-Dependent Pathway" <i>J. Biol. Chem.</i> , 272:9496-9502 (1997)	✓
51	Rauvala, H. et al., "Isolation and Some Characteristics of an Adhesive Factor of Brain That Enhances Neurite Outgrowth in Central Neurons" <i>J. Biol. Chem.</i> , 262:16625-16635 (1987)	✓
52	Reddy, S. et al., " N^{ϵ} -(Carboxymethyl) Lysine Is a Dominant Advanced Glycation End Product (AGE) Antigen in Tissue Proteins" <i>Biochem.</i> , 34:10872-10878 (1995)	✓
53	Schafer, B.W., et al., "The S100 Family of EF-Hand Calcium-Binding Proteins: Functions and Pathology" <i>TIBS</i> , 21:134-140 (1996)	✓
54	Schleicher, E.D., et al., "Increased Accumulation of the Glycoxidation Product N^{ϵ} -(Carboxymethyl) Lysine in Human Tissues in Diabetes and Aging" <i>J. Clin. Invest.</i> , 99(3):457-468 (1997)	✓
55	Schmidt, A.M. et al., "The Dark Side of Glucose" <i>Nature Med.</i> , 1:1002-1004 (1995)	✓

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	56	Schmidt, A.M., et al., "The V-Domain of Receptor for Advanced Glycation Endproducts (RAGE) Mediates Binding of AGEs: A Novel Target for Therapy of Diabetic Complications." <i>Supplement to Circulation</i> Vol. 96, #194 (1997)	✓
	57	Taguchi, A. et al., "Blockade of RAGE—Amphoterin Signalling Suppresses Tumour Growth and Metastases" <i>Nature</i> , 405:354-360 (2000)	✓
	58	Tanaka, N., et al., "The Receptor for Advanced Glycation End Products Is Induced by the Glycation Products Themselves and Tumor Necrosis Factor- α through Nuclear Factor- κ B, and by 17 β -Estradiol through Sp-1 in Human Vascular Endothelial Cells" <i>J. Biol. Chem.</i> , 275:25781-25790 (2000)	✓
	59	Teillet et al., "Food Restriction Prevents Advanced Glycation End Product Accumulation and Retards Kidney Aging in Lean Rats" <i>J. Am. Soc. Nephrol.</i> , 11:1488-1497 (2000)	✓
	60	Vlassara, H., "Advanced Glycation End-Products and Atherosclerosis" <i>The Finnish Medical Society DUODECIM, Ann. Med.</i> , 28:419-426 (1996)	✓
	61	Wautier et al., "Receptor-Mediated Endothelial Cell Dysfunction in Diabetic Vasculopathy: Soluble Receptor for Advanced Glycation End Products Blocks Hyperpermeability in Diabetic Rats" <i>J. Clin. Invest.</i> , 97:238-243 (1996)	✓
	62	Yan, S.-D., et al., "RAGE and Amyloid- β Peptide Neurotoxicity in Alzheimer's Disease" <i>Nature</i> 382:685-691 (1996)	✓
	63	Yan, S.-D., et al., "An Intracellular Protein That Binds Amyloid- β Peptide and Mediates Neurotoxicity in Alzheimer's Disease" <i>Nature</i> , 389:689-695, (1997)	✓
	64	Yan, S.-D. et al., "Amyloid- β Peptide—Receptor for Advanced Glycation Endproduct Interaction Elicits Neuronal Expression of Macrophage-Colony Stimulating Factor: A Proinflammatory Pathway in Alzheimer Disease" <i>Proc. Natl. Acad. Sci., USA</i> , 94:5296-5301 (1997)	✓
	65	Yan, S.-D. et al., "Receptor-Dependent Cell Stress and Amyloid Accumulation in Systemic Amyloidosis" <i>Nat. Med.</i> 6:643-651 (2000)	✓
	66	Yan, S.-D. et al., "Enhanced Cellular Oxidant Stress by the Interaction of Advanced Glycation Endproducts With Their Receptors Binding Proteins" <i>J. Biol. Chem.</i> 269:9889-9897 (1994)	✓
	67	Zimmer, D. et al., The S100 Protein Family: History, Function, and Expression" <i>Brain Res. Bull.</i> , 37:417-429 (1995)	✓
	68	International Search Report for PCT/US 01/17251 dated 8/14/01	✓
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